

CLAIMS

1. A method of setting-up an ultrasound imaging system, comprising:
using the ultrasound imaging system to display a gallery of ultrasound images each of which is obtained using a different setting for the ultrasound imaging system;
selecting at least one of the displayed ultrasound images; and
setting up the ultrasound imaging system using the setting for the at least one selected ultrasound image.
2. The method of claim 1 wherein the different settings comprise different image acquisition settings.
3. The method of claim 1 wherein the different settings comprise different signal processing settings.
4. The method of claim 1 wherein the different settings comprise different image processing settings.
5. The method of claim 1 wherein the different settings comprise the use of different operating modes.
6. The method of claim 1 wherein the act of using the ultrasound imaging system to display a gallery of ultrasound images comprises using the ultrasound imaging system to display a gallery of thumbnail images in a first window, and wherein the method further comprises displaying an image using the settings used to generate the selected images.
7. The method of claim 1 wherein the act of using the ultrasound imaging system to display a gallery of ultrasound images comprises displaying a gallery of ultrasound

images each of which is obtained using a different setting for the same acquisition or display parameter.

8. The method of claim 1 further comprising designating the type of ultrasound examination that will be conducted, and wherein the act of using the ultrasound imaging system to display a gallery of ultrasound images comprises displaying different galleries of images obtained using different settings based on the designated type of ultrasound examination that will be conducted.

9. The method of claim 1 wherein the act of using the ultrasound imaging system to display a gallery of ultrasound images comprises displaying a gallery of ultrasound images each of which is obtained using a different combination of settings.

10. The method of claim 1 further comprising manually adjusting at least one setting after the ultrasound imaging system has been set up by selecting at least one of the ultrasound images in the gallery.

11. The method of claim 1 wherein the act of using the ultrasound imaging system to display a gallery of ultrasound images comprises displaying the gallery of ultrasound images based on the settings used to obtain an image previously selected from a displayed gallery.

12. The method of claim 1 wherein the act of using the ultrasound imaging system to display a gallery of ultrasound images comprises displaying the gallery of ultrasound images based on the type of ultrasound imaging examination that is to be performed.

13. The method of Claim 5 wherein the different operating modes comprise one or more of the modes of M-mode, two-dimensional imaging, three-dimensional imaging, harmonic imaging, fundamental imaging, grayscale imaging and Doppler imaging.

14. The method of claim 1 wherein the different settings comprise one or more of the settings of line density, focal zones, dynamic range, transmit and receive frequencies, resolution, penetration, transmit power, sector width, grayscale mapping, number of multilines, wall filter settings, color map, frame rate, velocity range, frequency compounding, filter settings, filtering, persistence, and steering angle.

15. A diagnostic ultrasound imaging system, comprising:
an ultrasound scanhead having a plurality of transducer elements;
a transmitter coupled to the scanhead, the scanhead being operable to apply a transmit signal to the scanhead;
a beamformer coupled to the scanhead, the beamformer being operable to receive signals corresponding to ultrasound echoes from the scanhead and generate scan line signals corresponding thereto;
a signal processor coupled to the beamformer, the signal processor processing the scan line signals according to a setting of the imaging system;
an image processor coupled to the signal processor, the image processor receiving signals corresponding to an image frame and generating from the signals corresponding to the composite image frame corresponding video signals;
a video display coupled to the image processor for receiving the video signals and displaying corresponding ultrasound images;
a user interface operable to allow images shown on the video display to be selected; and
a controller coupled to the signal processor and the image processor, the controller controlling the operation of the signal processor and image processor in accordance with settings for the imaging system, the controller being operable to cause a gallery of

ultrasound images obtained using different settings to be shown on the video display, the controller responding to at least one of the displayed ultrasound images being selected to operate at least one of the signal processor and the image processor using the setting that was used to obtain the selected ultrasound image.

16. The ultrasound imaging system of claim 15 wherein the controller is operable to allow a plurality of displayed ultrasound images to be sequentially selected and to operate at least one of the signal processor and the image processor using all of the setting that were used to obtain the selected ultrasound images.

17. The ultrasound imaging system of claim 15 wherein the controller is operable to cause a gallery of ultrasound images obtained using different combinations of settings to be shown on the video display, and wherein the controller is responsive to one of the displayed ultrasound images being selected to operate at least one of the signal processor and the image processor using the combination of settings that was used to obtain the selected ultrasound image.

18. The ultrasound imaging system of claim 17 wherein the user interface is operable to allow selection of the type of ultrasound examination being conducted, and wherein the controller is operable select the combination of settings used to obtain the images in the gallery based on the selected ultrasound examination type.

19. The ultrasound imaging system of claim 15 further comprising an RF image buffer coupled between the beamformer and the signal processor to store the scan line signals generated by the beamformer.

20. The ultrasound imaging system of claim 15 further comprising an image memory coupled between the image processor and the video display to store the video signals generated by the image processor.

21. The ultrasound imaging system of claim 15 wherein the controller comprises:

a runtime controller operable to control the operation of the transmitter, the beamformer, the signal processor, and the image processor;

an optimization controller coupled to the runtime controller and the user interface, the optimization controller being operable to select the settings based on the image selected with the user interface.

22. The ultrasound imaging system of claim 15 wherein the controller is operable to select the gallery of displayed ultrasound images based on the settings used to obtain an image selected from a previously displayed gallery so that the settings for the ultrasound imaging system are iteratively selected.